Unitech PA962

Product Reference Guide

unitech

www.unitech-adc.com

Chapter 1.   Introduction

Thank you for purchasing PA962.

Your PA962 is a rugged, compact and lightweight palm-size computer. It utilizes the Windows CE[6] operating system, and incorporates an integral bar code scanning laser device, color LCD with touch screen, keypad, IrDA interface, and wireless communication capability. It provides the user with a standard Windows-based environment for customizing and operating the device.
This PA962 product reference guide will guide you to access your PA962.

Unitech PA962

NOTICE

This unit is equipped with a battery pack and backup battery. It is possible that the Unitech PA962 may not power-on due to battery discharge as a result of storage.

In the above situation, plug the PA962 to the RS232 or USB cable which is with DC in port or put the unit into the Unitech PA960/PA962 Cradle (with 12V/2A AC-DC adapter), and recharge the unit for 16 hours in order to fully charge its backup battery.

The backup battery will charge from external power or the main battery (if the main battery still has enough power to turn on). In the event the main battery is fully charged, refrain from using the PA962 for 16 hours in order for the main battery to fully charge the backup battery.

Backing-up data by backup battery only without the main battery installed in battery compart-ment may take as long as 6 hours. Therefore, in order to prevent data protection failure due to backup battery failure, do not leave the PA962 without the rechargeable battery pack installed, or without connection to AC power for an extended period of time.

Unitech PA962 & Accessories

After opening the box, please make sure the following accessories for the PA962 are present:

PA962 Main Body

PA962 CD

Battery pack

Unitech PA962 Quick Reference Guide
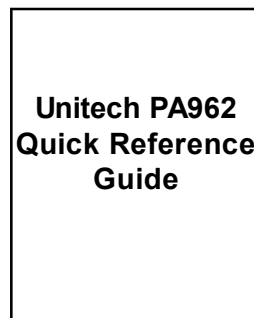
Stylus

CF slot drawer for PA962

Pulling-tags

RF Card Cushion

Tour of the Unitech PA962

Stylus
This stylus is design for tapping screen and also for accessing batter door.

Bar Code Laser Scanner

LED Indicator for scanning good and charging indication

Right Side Scanner Trigger
Press it to enable laser sccanner to read bar code.

Touch Screen

Keypad

RS232/USB/Charging Port

PA962 Back View

IrDA port

PCMCIA compartment
Install PC card here.

Reset Hole
Push enclosed button for system warm-start

CF slot compartment
Please remove the battery door to access CF slot.

Battery compartment
Install Lithium-ion battery pack here.

First Steps with the Unitech PA962

There are three ways to provide power to the PA962:

- Rechargeable Lithium-Ion battery pack
- RS232/Charging cable or USB/Charging cable
- Docking Station

NOTE: *Data you enter may not be properly stored until the built-in backup battery has been adequately charged. Please be remided to turn on the back up battery before you charge the terminal.*

Installing the Battery Pack

1.

Remove the battery compartment door (located on the lower back side of the unit).
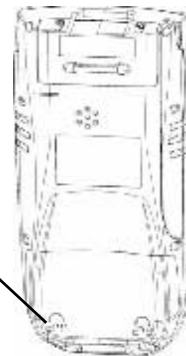
2.

Position the battery pack with the label side towards you, and the battery pack strap towards the bottom of the unit. Insert and fully seat the battery pack, making sure the shape of the battery pack fits the shape of the battery compartment.
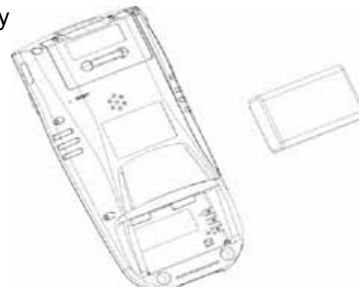
3.
Position the battery pack and install the battery compartment door.
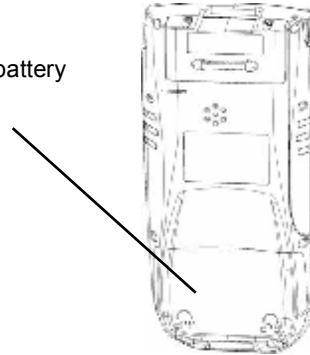
Supplying Power to the PA962

Connect the RS232/Charging Cable or USB/ Charging Cable to the PA962, and then connect the AC adapter to the cable's power jack and an electrical outlet.

Or place the PA962 into the Docking Station (first connect the power supply to the Docking Station).

Charging the Main and Backup Batteries for the First Time

It may take up to 16 hours to fully charge the empty backup battery. The first time charge should be for at least 16 hours to insure a proper charge.

CAUTION: Operating the PA962 for the first time without the AC adapter, and without fully charging the backup battery may result in loss of data stored in RAM memory.

Using the Stylus

CAUTION: Never use anything other than the PA962's stylus on the screen. Using another object as a stylus could cause permanent damage.

1. Hold the stylus as you would a pencil.

2. To make a choice from a menu, lightly tap the tip of the stylus on that choice.

3. To write data into a field on a form, use the stylus to print the letters or numbers. Use very light pressure.

PCMCIA Pulling Tags

Pulling Tags simplify the removal of PCMCIA cards from the PA962. Before inserting a PCMCIA card, remove one of the three Pulling Tags from the Pulling Tag sheet and adhere it to both sides of the PCMCIA card, leaving a short (approx. 89) tab. To remove the PCMCIA card, simply pull outward on this tab.

If a PCMCIA card is inserted into the PA962 without previously attaching a Pulling Tag, the card can be removed by affixing a length of adhesive tape to the surface of the card and pulling the card out by pulling outward on the piece of tape.

Front side of PCMCIA card

Insert CF card to PA962

Find the CF drawer from PA962 package, insert CF card to the CF drawer. Then insert the CF drawer to the PA962 and place the CF slot door. Re-install the battery door to PA962 with screw driver of PA962 stylus.

1.

2.

3

Your CF card.

CF drawe
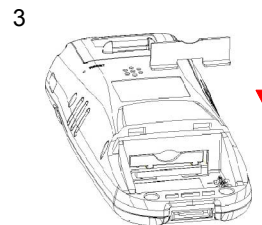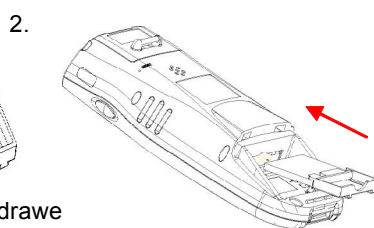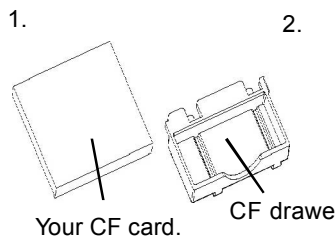
Protective Screen Film

The PA962 screen ships with a protective plastic film. You may remove this if desired by peeling from one corner. The screen will be more susceptible to scratching without the film, but will be more readable.

First Operation of the Unitech PA962

Pressing the ON/OFF Key

> The Unitech PA962 welcome screen appears. The Windows CE® screen will appear shortly thereafter.

Adjusting Screen Brightness

> Press [**FUNC**] key and Cursor key to decrease or increase screen brightness.

Calibrating the PA962

> This screen will automatically appear when the unit is powered-on for the first time or after the system is reset. This screen can also be accessed at any time by pressing the hot key [**FUNC**] and the [**ESC**] key.

> The PA962 will prompt you to calibrate the unit by tapping a sequence of screen locations. Tap gently but firmly. When you have completed the series of taps, press the [**ENT**] key to confirm it or press the [**ESC**] key to cancel it.

Setting Time Zone, Date, and Time

> After Calibrating the PA962, the "Date/Time Properties" dialog box will appear. Follow the steps below to set the date and time.

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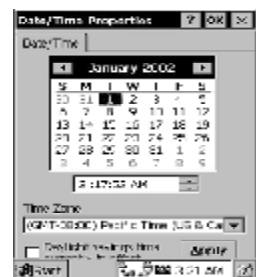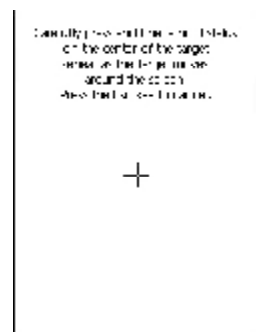
Setting the Time Zone first

Follow the steps below to set up your time zone.

1. Tap the location arrow to see a list of cities.
2. Choose your location (or nearest listed one).
3. Select the Daylight Savings Time check box, if necessary.
4. Tap the APPLY button.

Setting Year and Month

Tap the Left or Right arrows to scroll the month.

Tap here to
directly
change
year setting

Tap here to
popup list
of months
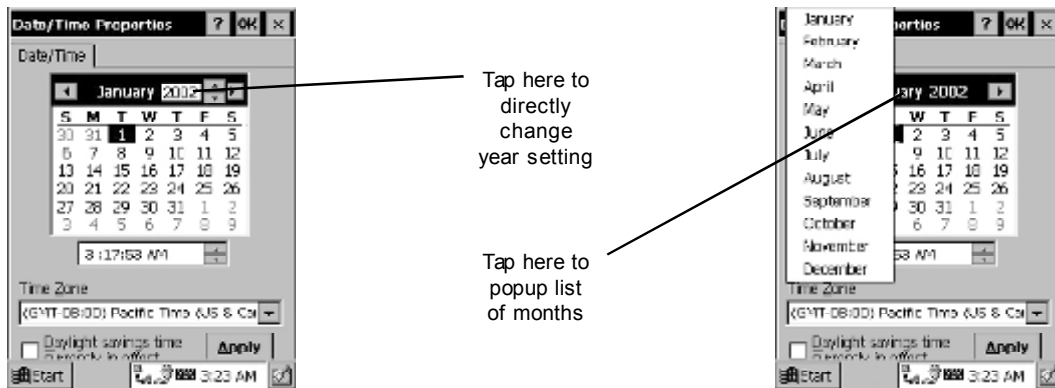
Or directly tap location of year or month to change the year or month setting.

Exiting Date/Time Properties Settings

Tap **OK** or **X** (cancel) button at upper-right corner to exit.

Flash Memory

Flash Memory is a re-writable location for programs and data files. The benefit of this feature is that files and programs saved in Flash Memory are unaffected by the PA962's power status.
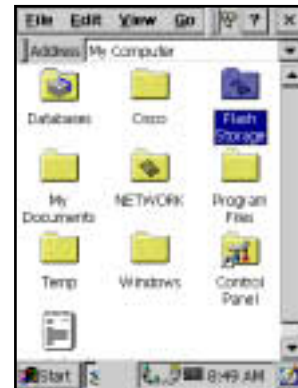
To access the contents of Flash Memory, simply select :My Computer9on the desktop and then select :Flash Storage9 The programs and data files currently stored in Flash Memory will be displayed.

To save to Flash Storage, select File, Save To, and select Flash Storage just like you would select any other storage medium.

Chapter 2. Using the Keypad and Scanner

Keypad

The PA962 series keypad contains 19 keys, including Cursor key, 0~9, Alpha key, ON/OFF, Function, Escape, Backspace, and Enter key. Please refer to the picture below.
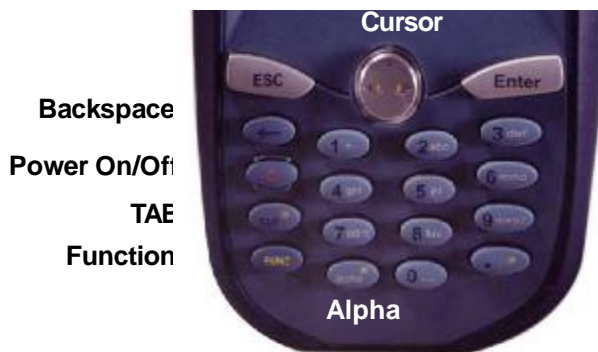
ON/OFF	When the unit is off, pressing the On/OFF key will turn the unit on. Alternatively, when the unit is on, this key must be pressed and held down for about two seconds in order to turn the unit off.
[ESC]	The Escape key will perform the same function as tapping the CANCEL button or the **X** button on the touch screen.
[Back space]	The Backspace key is used to erase previously input characters.
[FUNC]	The Function key is used to perform alternative key functions.
[TAB]	The Tab key is used to toggle between data fields or to place the cursor at pre-determined places in a programming or word processing application.
[ENT]	The Enter key is used to initiate a process or confirm a selection made by the user.
[Cursor]	This Cursor key is used to navigate among applications.
[Alpha]	This Alpha key is used to toggle between Numberic & Alpha Mode. This Apha key is also used to toggle CAPS at Alpha Mode.

Alpha Key

When the PA962 boots, the default condition is Numeric Mode on. When you toggle to Aphal Mode, the default condition is CAPS mode off.

Alpha Mode   Press alpha to alpha mode, the default condition is CAPS off.

CAPS   Press Apaha key twice to toggle CAPS

Key in   Press Cursor-UP to enter selected character.

Useful hotkeys

The PA962 provides eight combination hot keys to activate specified screen setting functions or programs. These hotkeys are useful for calibrating the touch screen, toggling the backlight, and adjusting screen contrast when the menu-driven operation is disabled. Below is the list of hotkeys. To use them, press and hold the [FUNC] key in combination with the corresponding second key.

[FUNC] + [ESC]   Check Stylus properties & Re-Calibrate the PA960's touch screen.

[FUNC] + [◖]   Decrease screen brightness.

[FUNC] + [◗]   Increase screen brightness.

[FUNC] + [TAB*]   Toggle screen & LCD backlight.

[FUNC] + [6]   Task manager

[FUNC] + [7]   Scanner Setting.exe

[FUNC] + [8]   Power Properties

[FUNC] + [9]   System Information

[FUNC] + [0]   Space

[FUNC] + [Cursor] Use Function key & Cursor "UP" to Toggle Display Backlight

[FUNC] + [Cursor] Use Function key & Cursor "Down" to Toggle Keypad LED Backlight

Software Keyboard (Windows CE Keyboard)

Since the PA962's keypad allows input of numeric characters only, the Windows CE Software provides a touch screen keyboard for input of other characters. The Windows based keyboard replicates the layout of a standard PC keyboard.

Opening the Windows CE Keyboard:
The Windows CE keyboard can be opened by tapping the "keyboard" icon on the task bar. (Refer to picture).

Double-tap here

Keying-in Characters:
After tapping the "keyboard" icon, the Windows CE keyboard pops up. Character input is the same as on a standard PC. Simply tap the on-screen button corresponding to the character you want to input.

International Character Support:
Tap the [áü] button to switch from the standard English keyboard to the European keyboard.

Moving the Keyboard:
Use the stylus to point to the title bar (the bar displaying "Input panel") and then move the stylus without lifting it from the screen.

Closing the Keyboard:
Tap the keyboard icon to close the Windows CE keyboard.

Title Bar

Using the Laser Scanner

Note: Reading software must be enabled in order to operate the scanner. This can be a user-loaded application or a pre-loaded utility such as Scanner Setting. exe.

Laser Scanner

The PA962 has an integrated laser scanner, which reads all major bar code labels with excellent performance.

Trigger keys are located on the left and right sides of the unit. Press either one to activate the laser scanner.

The PA962 also has a built-in Scanner Setting. exe program that allows the user to test the barcode scan function. Scanner Setting.exe is located in directory \Windows\Control and is also accessible by shortcut via "Setting\Control" on the Start menu.

Left side trigger

Right side trigger
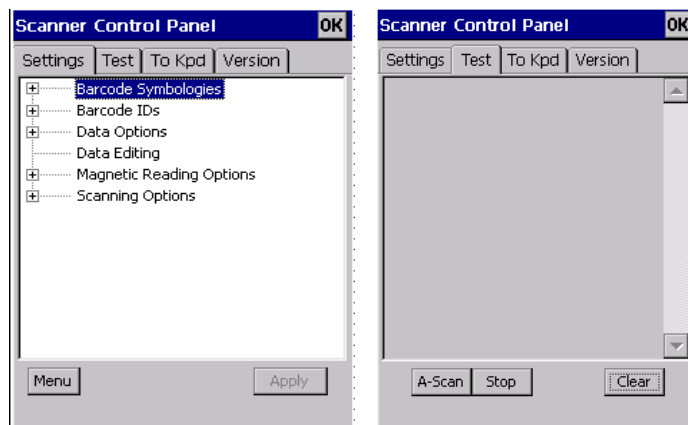
Chapter 3.   Power system

Charging the Lithium-Ion Battery Pack

The optional Docking Station is a convenient accessory for daily use of the PA962. The charging will be completed withing 3 hours. Or, when using the included Charging/RS232 Cable or Carging / USB cable the charging time of the battery pack is about 3 hours.

Charging the Main and Backup Battery for the First Time

Note: Before using the PA962 for the first time, charge the unit for 16 hours to fully charge the empty backup battery. Operating the PA962 for the first time without the AC adapter, and without fully charging the backup battery may result in loss of data stored in RAM memory.

Note: Backing-up data by backup battery only without the main battery installed in the battery compartment may take as long as 6 hours. Therefore, in order to prevent data protection failure due to backup battery failure, do not leave the PA962 without the rechargeable battery pack installed, or without connection to AC power for an extended period of time.

It may take up to 72 hours to backup data when the PA962 is automatically shut down because of very low battery power while the depleted batteries are still installed in the battery compartment.

Power Status Indication

Four different icons are displayed on the status bar to indicate the on-board power status.

"Plug" icon: When displayed, this icon indicates that the battery is charging. The PA962 is either plugged-in via the DC 12V/2A power adapter or in the docking station.

Plug with power adapter

"Battery Low" icon: When displayed indicates the battery is low and needs to be charged. In other words, there is no external power supply, the battery charge is low or very low, and charging the PA962 is recommended.
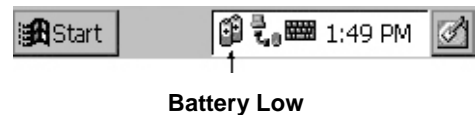
Battery Low

"Battery Very Low" icon: When displayed indicates the battery is very low. Stopping the operation and charging the PA962 immediately is highly recommended.
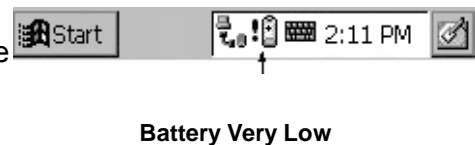
Battery Very Low

No icon: When displayed means there is no external power supply to the PA962 but its battery power status is good.

"Backup Battery Low" icon: When displayed indicates the backup battery is low and needs to be charged.
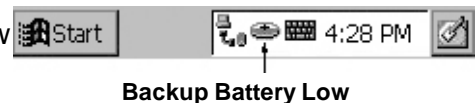
Backup Battery Low

"Backup Battery Very Low" icon: When displayed indicates the backup battery is very low. Stopping the operation and charging the PA962 immediately is highly recommended.

Backup Battery Very Low or Backup Battery is not turned on.
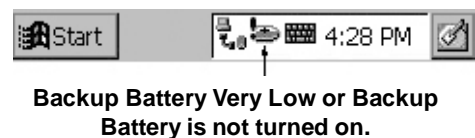
Checking Main and Backup Battery Status

Enter "Power Properties":

If the above mentioned "Plug" icon or "Battery" icon is displayed, double tap this icon to bring up the "Power Properties" screen.

Or, select **Settings/Control Panel** from the **Start** menu and then double tap the "**Power**" icon to display "Power Properties".

Check Battery Status:

The battery menu item will show the status of the main and backup batteries. There are 3 kinds of status indicators — "Good", "Low" and "Very Low". Bold characters indicate the actual status, e.g. battery icons in the illustration at right mean both the main and backup batteries are "GOOD".

It is necessary to charge the battery when "Low" or "Very Low" are displayed in bold characters. If "Low" or "Very Low" are still displayed after charging, please contact Unitech Technical Support.

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How to Save Battery Power

Automatic shut-down of the PA962

The PA962 will enter idle mode when there is no task, or all tasks are waiting for input. In default setting, the PA962 will automatically turn itself off if it remains idle for 3 minutes and when there is no external charging power applied. Pressing the power button will return the PA962 to the same point at the time of automatic shutdown.

In Power Properties, select "Power Off". Customize automatic shut off time by tapping the arrow to select from a list of time periods. The available time periods are 1, 2, 3, 4, and 5 minutes.

This function can also be activated when the PT962 is plugged into the power adapter or placed in its cradle by tapping the check box and then tapping the arrow to select from a list of time periods. The available time periods are 1, 2, 5,10, 15 and 30 minutes.
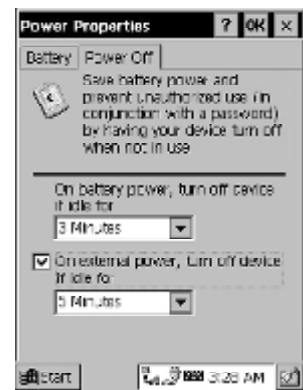
Backlight Setting

Because the power consumption of the LCD backlight is high, turn off the backlight function if it is not necessary. If a backlight is required, set "automatically turn off the back-light" function.

To change backlight settings, select Settings / Control Panel from the Start menu, and then double tap the "Display" icon.

Tap the "Backlight" menu item to display the following 3 selections:

Automatically turn off the backlight when using battery power:

Tap the check box to toggle this function. Available idle times are: 15 and 30 seconds, and 1, 2, and 5 minutes.

Automatically turn off the backlight when using external power:

Tap the check box to toggle this function. Available idle times are: 15 and 30 seconds, and 1, 2, 5, 10, 15, and 30 minutes.

Automatically turn on the backlight when key

This function is only activated by the PA962's keypad rather than the Windows CE keyboard.
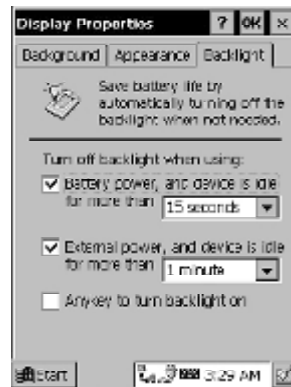
Warm Boot / Cold Boot

Warm Boot

= To perform a warm boot while the PA962 is operating, insert a pin (paper clip works well) into the reset hole on the back of the terminal, right below the PCMCIA cover.

= Under the Windows folder of your terminal, locate the file BootMode.exe, execute the program, and confirm the warning message.

WARNING: Warm Boot will cause unsaved data to be lost.

Cold Boot

Press the coldboot buttom underneith the PCMCIA cover, the terminal will perofrm coldboot.

NOTE: Cold Boot will cause the PA962 to return to its original factory settings.
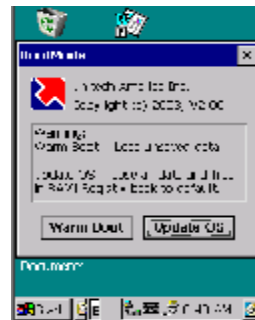
Charging Considerations

It is important to consider the environment temperature whenever you are charging the Lithium-Ion battery pack. The process is most efficient at normal room temperature or slightly cooler. It is essential that you charge batteries within the stated range of -5°C to 50°C. Charging batteries outside of the specified range could damage the batteries and shorten their charging life cycle.

Storage and Safety Precautions

Although charged Lithium-Ion batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens they will require recharging prior to use. Lithium-Ion batteries may be stored at temperatures between-20°C to 60°C, however they may be depleted more rapidly at the high end of this range. It is recommended to store batteries within normal room temperature ranges.

Chapter 4.   Communication

Introduction

The Unitech PA962 allows users to link to a host computer via RS-232,USB, IrDA, or RF connection for data communication.

This chapter provides an overview of the communication of the PA962. The following subchapters cover these topics:

= "Microsoft ActiveSync" for details about serial communication via RS232/ USB port.
= "RF Communication" for details about wireless communication between mobile PA962 and host computers.

Connecting

Serial or USB Cable

Plug the RS232 or USB end of the communication cable to the PC's 9 pin Com Port and the other into the PA962 RS232/USB/Charging Port (see page 3). Plug the Power Supply into the Power Receptacle on the RS232 or USB plug.

Docking Station

Plug the RS232 end of the communication cable to the PC's 9 pin Com Port and the other end into the Cradle's RS232 Port. Plug the Power Supply into the Power Receptacle on the Docking Station.

ActiveSync

In order to exchange data between your desktop computer and the PA962, Microsoft ActiveSync must be installed on your desktop computer.

With Microsoft ActiveSync you can:
= Transfer data.
= Back up and restore PA962 data.
= Add programs to and remove programs from the PA962.

This chapter will introduce Microsoft ActiveSync version 3.5. ActiveSync provides a user-friendly interface and it can be downloaded free of charge from Microsoft's Web site.

Installing Microsoft ActiveSync

Before beginning installation, carefully read the following:

= Because you will be restarting your computer during installation, save your work and quit all programs before you begin.

= To set up your communication settings, a PA962 serial cable is required to connect the PA962 to your host computer.

= If you run the Windows NT® operating system with a service pack, you will be informed during setup that you may need to reinstall the service pack. Try connecting first, and if unsuccessful, reinstall the latest service pack.

Installation

Follow the installation procedure below to install Microsoft ActiveSync, connect your PA962 to your desktop computer, and establish a partnership for synchronization (if desired):

= Download the executable program "msasync.exe" from the Microsoft web site at:
http://www.microsoft.com/mobile/ pocketpc/downloads/activesync35. asp.
Execute this program.

= Select the folder into which Microsoft ActiveSync will be installed. If you choose not to download into the displayed default folder, click the **Change** button.
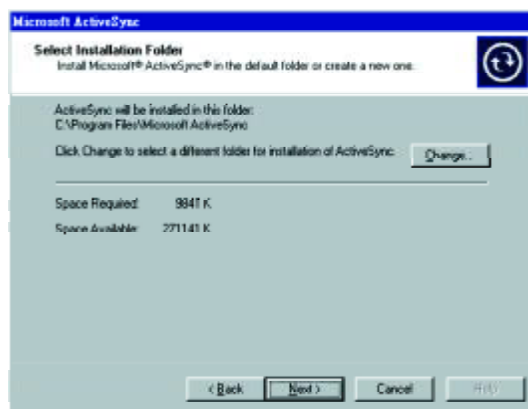
= After you've selected the folder, click **Next** to set up Microsoft ActiveSync. After you've installed Microsoft ActiveSync and restarted your computer, you'll see the following screen:

=   Using the RS232 cable or USB, plug the PA962 into a communication port on your desktop computer.

=   Turn the PA962 on. Click the **Next** button.

Microsoft ActiveSync should recognize your PA960 and configure your communication port. If a message appears indicating that it is unable to detect a connection, click the **Cancel button** and manually configure the communication settings. For more information, see "Change Communications Settings" later in this chapter.

=   When the PA962 is initially con-
    nected to a PC, the following
    screen appears prompting you to
    set up a "Partnership". Setting up
    a Partnership is required if your
    PA962 is to be synchronized with
    other computers and/or terminals.
    Otherwise select N<u>o</u>**.**

=   Now select synchronization
    settings. Currently the PA962 can
    support "**Synchronized Files**"
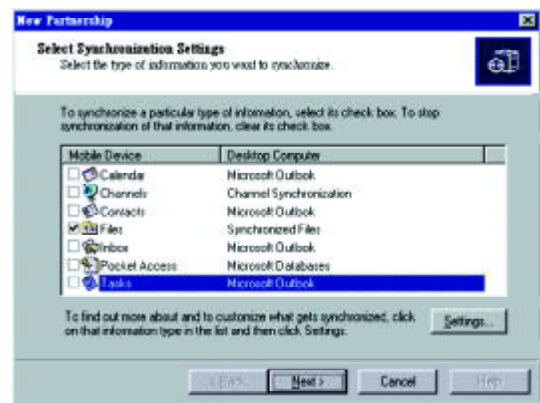
= Different PA962 cannot share the same Device Name if more than one terminal is to be connected to the same PC via a "Partnership". The default Device Name assigned to the PA962 is "WinCE".
It is important to specify a different name for each terminal if more than one terminal is to be connected to the same PC. When ActiveSync displays the following screen, assign each terminal its own unique name.
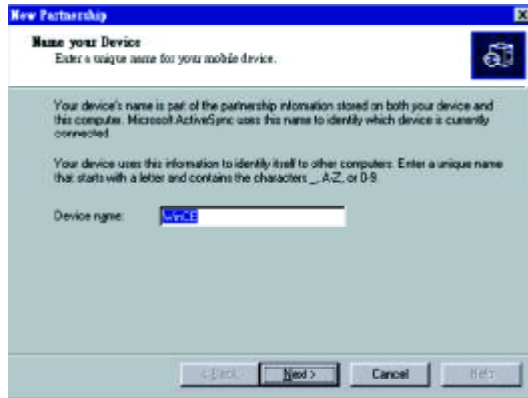
Click the **Next** button and follow the instructions to set up a partnership between the PA962 and your desktop computer.

This partnership allows you to synchronize information between the two computers.

= When the configuration process is complete, you'll see the following screen:
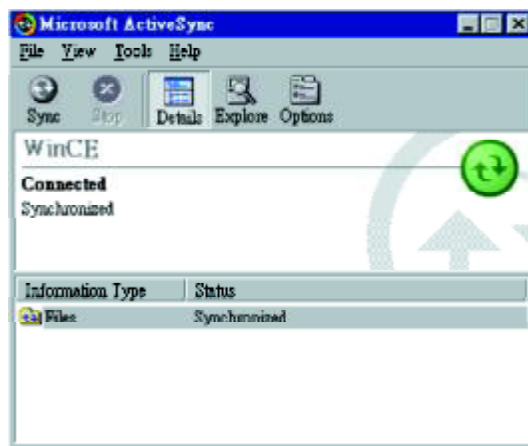
Synchronization will be initialized and will take place if you've chosen to synchronize periodically or upon connection.

Note: Your desktop computer can create a partnership with multiple PA962. Also, a PA962 can create a partnership with up to two desktop computers.

Using the Mobile Devices Window

Start Microsoft ActiveSync by clicking the **Microsoft ActiveSync** shortcut on your desktop and then clicking the "Explore" icon.
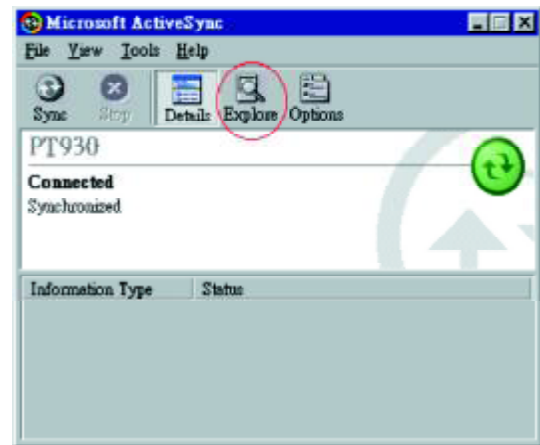
In the displayed window, you can:

= Select your PA962 to use Microsoft ActiveSync features such as changing synchronization options, as described in the "Synchronization" section.

= Open the Explorer window by double-clicking your device icon in the Mobile Devices window.

Use this window, which is the root window to the PA962, to copy and move files between the PA962 and your desktop computer, as described in the "Synchronization" section.
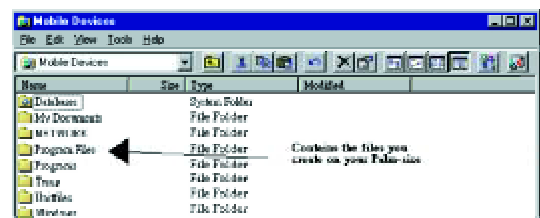
Changing Communications Settings

If Microsoft ActiveSync fails to detect the PA962 during installation, set up communications manually instead. Make sure the following conditions are met:

= Verify that the correct communications port is selected for your desktop computer, and that it is free.

= Microsoft ActiveSync uses the specified communication ports to connect to the PA962. Make sure these resources are available for Microsoft ActiveSync to connect to the PA962. Other programs cannot use them while the PA962 and your desktop computer are connected.

= Set your baud rate on the PA962 and desktop computer will match it.

To check communications settings, open the Mobile Devices folder, and click **File => Connection Settings**.

The baud rate on the PA962 is set to 57600bps by default. To adjust the baud rate, tap **Start, Settings, Control Panel**, select the **Communication icon,** select the **PC Connection** Tab, and then tap the "**Change Connection….**" Button. For more information, see Microsoft ActiveSync Help.
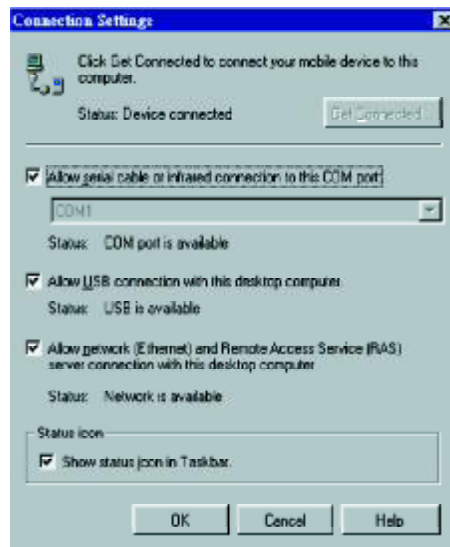
If you want to change the terminal's default baud rate or use IrDA to communicate with the Host PC, follow the steps below to adjust it:

1. Tap **Start, Settings, Control Panel, Communications**
2. Tap the **PC Connection** tab.
3. Tap the **Change Connection** button
4. Select the baud rate from the list box.

Synchronization

You can *synchronize* information between the PA962 and your desktop computer to insure both computers have current information. First you'll need to install Microsoft ActiveSync on your desktop computer.

Synchronization takes place according to the options you chose during Microsoft ActiveSync setup. If you accept the default (**On Connect**) synchronization option in the Microsoft ActiveSync Setup Wizard, you'll be able to simply connect your PA960 to your desktop computer, and synchronization will take place.

If you have not enabled **On Connect**, start Microsoft ActiveSync in either of the following ways:

=   On your desktop computer, double-click the My Computer icon and then double-click the Mobile Devices folder.

=   Plug the RS232 cable or USB cable between the PC and the PA962.
=   Execute "Repllog.exe" from the PA962's Windows directory (if ActiveSync is setup to sync using the IrDA port on both PC and PA962).

To turn on IrDA:
1. Click on the "Control Panel" icon on your PA962
2. Double-click the "Communication" icon
3. Click the "PC Connection" tab
4. Tap the "Change Connection" button
5. Select IrDA.

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Synchronization will take place according to options you've chosen. To initiate synchronization manually, click **Tools**, and then **Synchronize Now**.

Synchronization may take a few minutes, as each item to be synchronized needs to be processed. You'll see a message indicating that synchronization is taking place.

After you've synchronized, you'll see the status message in the status bar of the Mobile Devices windows. At any time, you can check the status. Click the Tools menu, and click ActiveSync Status to display the ActiveSync Status window.

What Gets Synchronized

The following sections provide an overview of how various types of information are synchronized. For details on synchronizing specific items, see Microsoft ActiveSync Help.

Files

All files you create on the PA962 are stored in a **My Document/PA962 My Documents** folder (if the assigned Device Name is **PA962**). View those files by double-clicking the short-cut **PA962 My Documents** icon on your desktop computer.

If you have enabled file synchronization, your PA962 files are automatically synchronized on your desktop computer file folder WinCE_PC My Documents - unless a different name was chosen for the PA962. This folder can be found in one of following locations:

=   Windows 95/98: My Documents\WinCE_PC My Documents.
=   Windows NT:WINNT\Profiles*your user-name*\Personal\WinCE_PC My Documents.

During synchronization, files are copied back and forth between the PA962 and the desktop computer.

Changing Synchronization Options

Synchronization options can be modified, including <u>when</u> you synchronize and <u>what</u> gets synchronized. In the Mobile Device window, click **Tools**, and then **Sync Options.**

For each type of information, the synchronization process can be hastened by limiting the amount of data to be synchronized. To do this, select a service and click the **Settings** button.

Inbox, Tasks, and Channels not supported
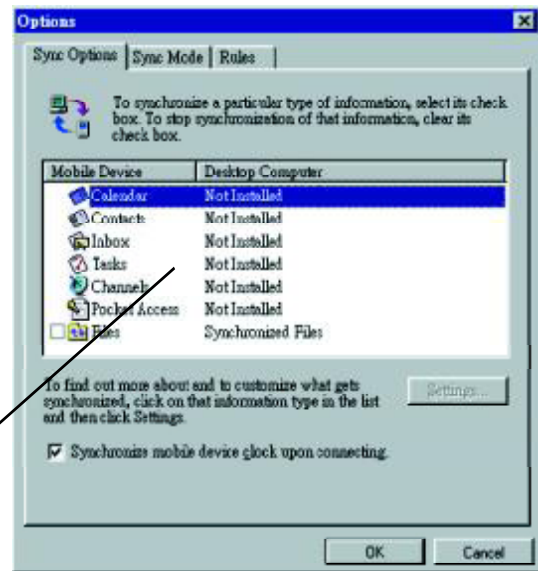
Note: = The PA962 only supports File synchronization. Inbox, channels, and Tasks are not supported.

= After enabling a service, you must close and reopen the ActiveSync Options dialog box before the Option button is available for that service.

Installing and Removing Software

Any program created for your PA962 can be installed as long as there is sufficient memory or storage space.

First install the software on your desktop computer and then connect the PA962 to your desktop computer. Some software programs provide their own setup instructions. Most software programs use Application Manager to install and remove software on the PA962. In the Mobile Device window, click **Tools**, and then click **Application Manager**.

Application Manager detects the software that is available but not yet installed on the PA962.

System software and programs added to the PA960 at the factory are stored in FlashROM. You cannot remove or modify this software, and you'll never accidentally lose FlashROM contents.

Software programs and data files added to your PA962 after factory installation can be stored in RAM or Flash Memory.
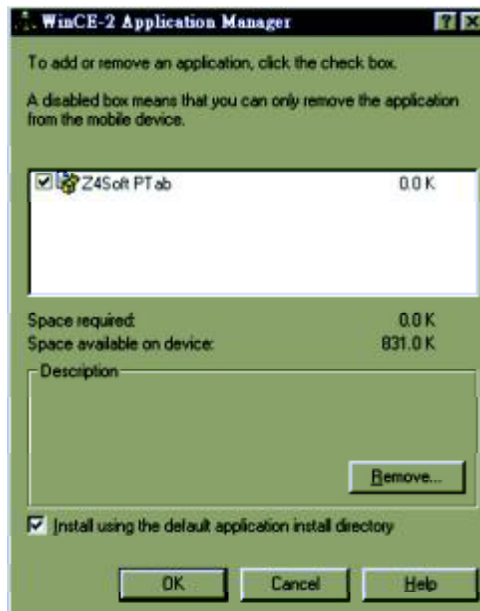
InBox

Following is an overview of InBox. Step-by-Step information on how to use this program can be found in the Help function on the PA962. To view Help, tap **Start**, and then **Help**.

Sending and Receiving E-Mail with InBox

Use InBox to send and receive e-mail messages using any of these methods:

= Send and receive messages using a dial-up connection to a service provider or your corporate network.
= Send and receive messages using a wireless network card to a local area network (LAN).

Note: You can send and receive messages with Inbox, but this function cannot be synchronized with Outlook.

Sending Mail Remotely

In addition to exchanging mail messages with your desktop computer, you can send and receive mail from a remote mail server by setting up an e-mail account with a service provider.

Note: If you're setting up an Internet mail account with an ISP (Internet Service Provider), the ISP must use a POP3 mail server and an SMTP mail gateway.

For dial-up connections, you'll require an internal PCMCIA type modem card or external modem for the PA962. You'll also need to set up the remote connection on the PA962 using the Connections program.

For wireless connections, you'll require an RF card for the PA962. You'll also need to set up the remote connection on the PA962 via the **Network** setting.

Setting Up Remote Mail

You can use multiple mail services to obtain mail. For each mail service you will access, first set up and name each mail service. If you will use the same service to connect to different mailboxes, set up and name each mailbox connection.

In the InBox on the PA962, tap **Compose**, **Options**, the **Services tab**, and then the **Add** button. A setup wizard will walk you through the steps.
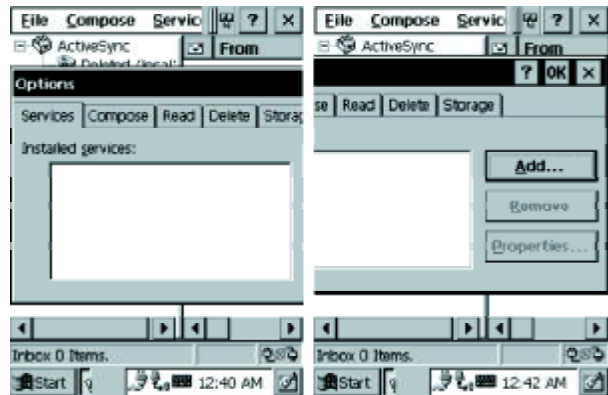
The software for creating an Internet Mail connection to an ISP is pre-installed on the PA962.

Work Remotely

Mail received via dial-up connection appears in the InBox folder on the PA962, together with the mail you synchronize with your desktop computer. Messages received remotely are linked to your mail server rather than to your desktop computer.

You can work online, which means that you read and respond to messages while connected to the server. Messages are sent as soon as you tap **Send**, which saves space on your device.

Product Reference Guide

You can also work offline. Once you've downloaded new message headers or partial messages, you can disconnect from the server and then decide which message to download completely. The next time you connect, InBox automatically downloads the complete messages you've marked for retrieval and sends the messages you've composed.

Receiving Messages

Messages received by synchronizing with your desktop computer and through remote connections appear together in your InBox. Double-tap a message to read it.

When you connect to your Internet mail service, the InBox downloads only the first 100 lines of each new message to the InBox folder by default. No mail attachments are downloaded. When you synchronize with your desktop computer, only the first 50 lines of each new message remains on the mail server or your desktop computer.

You can mark the messages that you want to retrieve in their entirety the next time you synchronize or connect to your mail service. Select the message, tap **Service**, and then tap **Retrieve Full Copy**. The icons in the InBox messages list give you a visual indication of the message status.

Specify your downloading preferences when setting up the service or selecting your synchronization options. You can change them at any time.
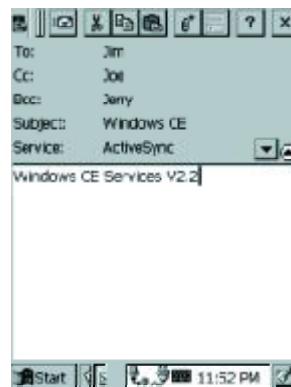
= To change InBox delivery options for mail synchronization: in the Mobile Devices window on your desktop computer select your WinCE icon, click **Tools**, and then click **ActiveSync Options**. Select **Message** and then click **Options**. (For the **Options** button to be available, you must have previously enabled message synchronization.)

= To change InBox delivery options for remote mail: in InBox on your PA962, tap **Service** and then tap the service name. Then tap **Service** again and tap **Properties**.

You'll need to download a full message before you can view its attachments.

Sending Messages

To compose a new message, tap the **New Message** button on the command bar. Enter an e-mail address in the **To** field or select a name from the Address Book. All e-mail addresses entered in the e-mail fields in Contacts appear in the Address Book.

To send your message, tap **File** and **Send**. Messages are placed in your OutBox folder on the PA962 and will be delivered to their destination in one of two ways:

=   They are transferred to the OutBox folder in Exchange or Outlook on your desktop computer the next time you synchronize.

=   They are transmitted to your mail server the next time you connect remotely. In InBox, make sure the appropriate service is selected on the **Service** menu. Then tap **Connect**.

RF Communication

Windows CE can support TCP/IP protocol, so the user can easily connect to the Internet by Modem or RF. The following chapter is an introduction on how to connect the PA962 to a network via TCP/IP.

There are several PCMCIA RF cards available on the market. These cards provide the PA962 with wireless communications. Currently, Unitech provides Cisco 350, Agere (Lucent OEM 802.11b card) support for the PA962 with the drivers pre-installed. By selecting a supported card for the PA962 RF communication will be "plug-and-play".

RF networks look and operate similarly to Ethernet networks. The only difference is that a radio transmission replaces the hard-wire connection between the various nodes. This means all of your existing applications that currently operate over Ethernet will also function utilizing WLAN without any special wireless network software. This picture illustrates a typical network topology including the PA962 with RF.

Hub

WMS Database
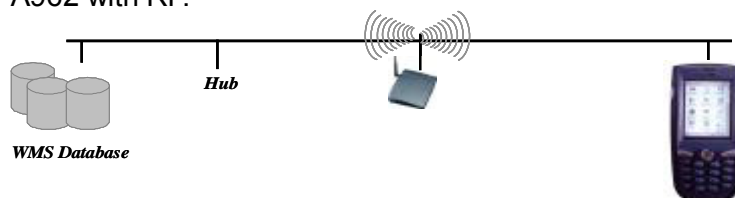
Installing the Wireless Local Area Network (WLAN) Card

=   Power off the PA962.

=   Remove the stylus, using the screw driver
    in the stylus to remove the screw, and
    then open the PCMCIA compartment.

=   Attach the snap-on antenna to the RF card
    if required (only the Cisco card comes
    with a pre-installed antenna).

=   Attach pulling-tag to antenna.

=   Insert the RF card into the PCMCIA slot.

PCMCIA card
front side

RF Card Cushion

Remove the protective backing from the sticky side of the RF Card Cushion and
install the cushion along the inside upper edge of the PCMCIA Cover as shown.
The RF Card Cushion prevents damage to the RF card antenna in case the
PA962 is accidentally dropped.

Re-attach cover to the PA962

Setting Up the Wireless Card

The PA962 is pre-loaded with connection software from
Cisco and Lucent WaveLAN (Agere Orinoco). The PA962
will automatically detect these RF cards and then display
the following screen during the first-time installation.
Please note that there are two ways to set the IP
address:
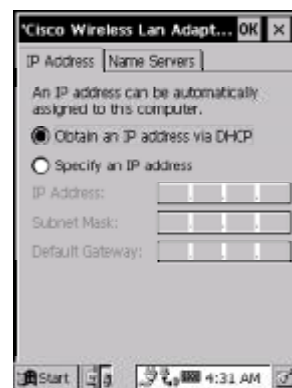
Obtaining an IP Address via DHCP Server

Please check with your MIS department to determine whether a DHCP server is available in your LAN environment. If available, tap the radio button **Obtain an IP address via DHCP**, and then tap the **OK** button.

Specifying an IP Address

If there is no DHCP server in your LAN environment, specify the individual IP address on each PA962 with the following steps:

= Tap the radio button **Specify IP Address.**

= Input the proper **IP address, Subnet Mask,** and **Default Gateway.**

= Tap the **Name Servers** tab, and then input the proper **Primary DNS, Secondary DNS, Primary WINS,** and **Secondary WINS.**
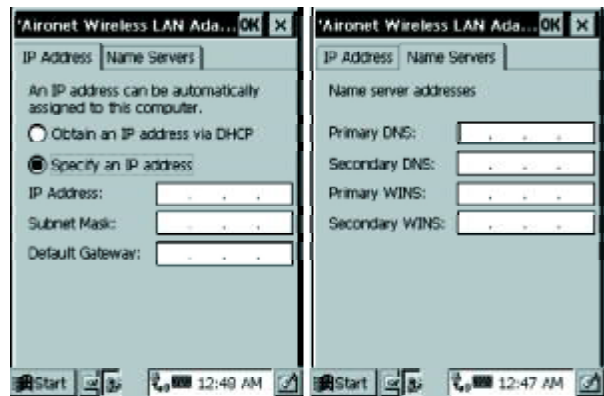
To avoid conflict with your LAN environment, please consult with your MIS department for the correct TCP/IP setting.

Note : To change the above settings, please perform the following steps:

= Tap **Start, Control Panel.**

= Double tap the **Network icon**.

= Select the proper RF card driver and then tap the **Properties** button.
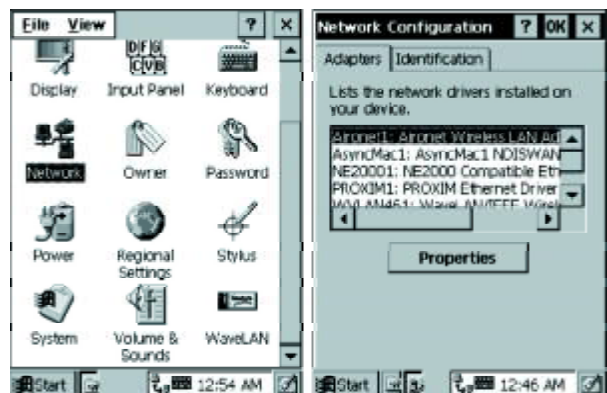
How to Set SSID

Lucent WaveLAN (Agere Orinoco)

= **Tap Start**, **Control Panel**.

= Double-click the **WaveLAN icon.**

= Under the **"Basic" tab**, after "<u>WaveLAN Network Name</u>", enter "SSID". Tap **OK**
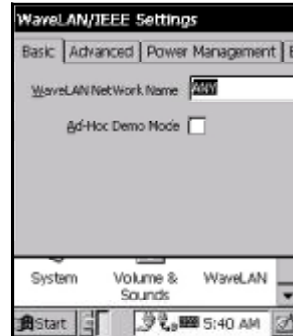
Cisco

= Tap **Start. Run, Browse**.

= Select the **Windows directory**.

= Select **Aironet Client Utility.exe**, Click **OK**. Click **OK** again.

= Select **SSID**. Click **OK**

Cisco 350 Site Survey Tool:

The Unitech PA960 includes the Cisco 350 Site Survey Tool pre-loaded.

To access the Site Survey Tool:

1. Open **My Computer** (or use **File Explorer**).
2. Open the Cisco file folder.
3. Open Site Survey Tool.

For more information on the Site Survey Tool, refer to the Cisco CE Manual.

Or, go to: http://www.cisco.com/univercd/cc/td/doc/product/wireless/ airo_350/350cards/win_ce/hig/ce_appe.htm.

Power Management

(Required to prevent battery drainage due to extra power usage of RF cards.)

    Lucent WaveLAN (Agere Orinoco)

= Tap **Start, Control Panel**.

= Double-click the **WaveLAN icon**.

= Under the **"Power Management" tab**, select **"Card Power Management"**. Tap **OK**

    Cisco

= Tap **Start. Run, Browse**.

= Select the **Windows directory**.

= Select **Aironet Client Utility.exe**, Click **OK**. Click **OK** again.

= Select **Power Save Mode**. Select **MAXPSP**. Click **OK**
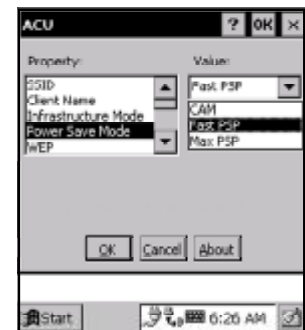
Chapter 5. Useful Application Program

Scan2Key

The Scan2Key application can route input from a scanner port to kaypad buffer, so that all input from scanner will be treated as they are just input from keypad. With this router, scanned data can be directly input into scanner port aware application, like MS Pocket Word.
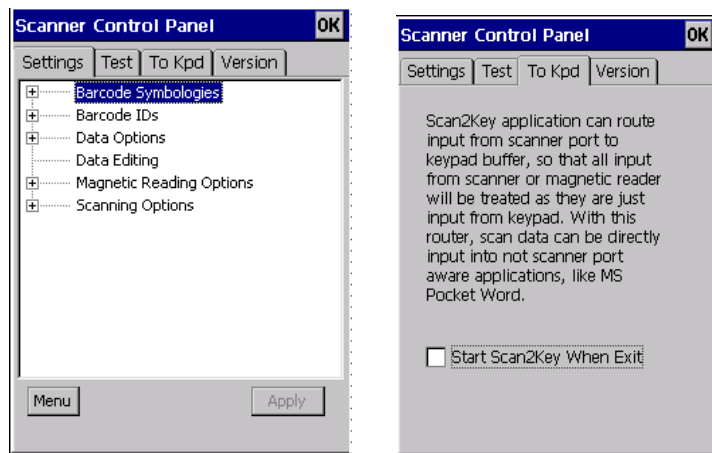
Scanner Setting

When it is necessary for the user to change the default barcode symbology for a different application, **Scanner Control Panel** provides the ability to change default symbology, place delimiter characters behind scanned data, and save the settings.
Run this program from **\Windows\Scanner Setting.exe** and Scanner Control Panel will be displayed.

Barcode Symbologies:
Set customization symbologies for each symbology including:

Symbology	Enable Disable	Send Check Digit	Max./Min Length	Send Leading Digit	Other
Code 39	Yes	Yes	Yes		Full ASCII Send Start/Stop Character
I 2 of 5	Yes	Yes	Yes		Send Start/Stop Character Fix Length
S25/Toshiba	Yes	Yes	Yes		Fix Length
Code 32	Yes				Send Leading Code Send Trailing Code
Telpen	Yes				Character Set
EAN 128	Yes				
Code 128	Yes		Yes		
MSI/Plessy	Yes	Yes	Yes		Check Digit Module
Code 93	Yes		Yes		
Code 11	Yes	Yes	Yes		One/Two Check Digit
CodaBar	Yes	Yes	Yes		Send Start/Stop Character CLSI Format On
Label Code	Yes	Yes			
UPC-A	Yes	Yes		Yes	
UPC-E	Yes	Yes		Yes	Zero Expansion On Enable NSC
EAN 13	Yes	Yes		Yes	Enable Bookland
EAN 8	Yes	Yes		Yes	
Delta Code	Yes	Yes			Calculate Check Digit
Supplement					Supplement 2 Supplement 5 Space Separator Inserted If Present, Transmit / Presence Required

Appendix A

Technical Specifications

CPU/Memory

CPU   Intel X-Scale 400MHz 32 CPU. Built-in real-time clock.

Flash ROM   64MB Built-in (Flash Memory Manager included)

SDRAM   64MB

Input/Output

Input Devices   Touch screen, stylus, keypad, full alphanumeric software keyboard, mag stripe reader, and bar code scanner

Keypad   19 physical keys with backlight including cursor key, numeric keypad, alpha keypad,TAB, ESC, FUNC, brightness and contrast controls

Audio Output   A piezoelectric buzzer with software controlled volume

Display   240 x 320 pixels portrait type, 65535 Color LCDwith touch screen and Electroluminescent backlight.

                     Contrast adjustable by software hotkey

LED Indicator   Dual colors (green/red) for barcode good read indication

Scan Engine

       Light Source: Visible Laser Dicode(VLD) 650nm.

       Scan Rate: 39+Scan/Sec

       Scan angle: +53° from normal

       Min. print contrast: 25% absolute dark/light reflectanceat 650nm

       Power Consumption: 65mA typicle@5V

       Depth of Field: See next page

Laser Typical Depth of Field
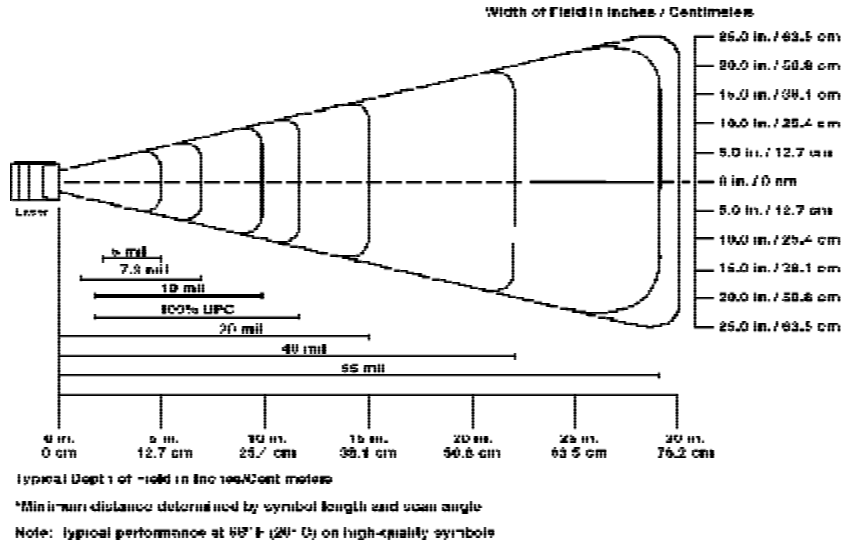
	N e a r	F a r
5 mil	2.0 in. (5.1 cm)	5.2 in. (13.2 cm)
7.5 mil	1.7 in. (4.3 cm)	8.0 in. (20.3 cm)
10 mil	1.8 in. (4.6 cm)	10 in. (25.4 cm)
100% UPC	1.9 in. (4.8 cm)	13 in. (33 cm)
20 mil	*	20 in. (50.8 cm)
40 mil	*	25 in. (63.5 cm)
55 mil	*	30 in. (76.2 cm)
* Dependent upon symbol width		

Decode Zone

Interface Port

RS232/USB/Charging Port   Power charging and EIA RS232C supports full duplex asynchronous communications and baud rate up to 115.2K bps.

IrDA   Compliant to IrDA 1.2 (SIR). Baud rate up to 115.2K bps.

PCMCIA & CF   PCMCIA Type II slot & CF Type I & Type II slot accept memory, modem, and RF cards

Power

Power Options   Lithium-Ion @7.4V, 1850mAH Main Battery Pack
                           (Battery pack can be recharged 500 cycles or
                           more)
                           External AC/DC adapter @12VDC/2A with regulator

Power Consumption   Lithium-Ion battery: At 8V, room temperature.

                           Standby mode: 45mA for sytem only without
                           backlight.
                           Suspend mode: 2mA for system only

Battery Charge   3 hours with external AC/DC adapter
                           3 hours with docking station

Backup Battery   1 rechargeable 3.7V, 120mAH Li-ion Polymer battery
                           cell for data backup

Power Management   Power consumption indicated on status bar

Barcode/Symbology

Symbology   Codabar   EAN128
                      Code 11   Interleaved 2 of 5
                      Code 32   Label Code
                      Code 39   MSI/Plessy
                      Code 39 Full ASCII   Standard 2 of 5
                      Code 93   Toshiba
                      Code 128   Telpen
                      Delta Code   Toshiba
                      EAN-8, 13   UPC-A, E

OS and Software Programming Tools

OS   Microsoft Windows CE.NET 4.2 Professional Plus

Development Language Microsoft Embedded Visual Tool for VB and VC pro-
                           gramming

Mechanical and Environmental

Dimensions	Length: 7.28" (18.5cm)
	Width: 3.49" (8.76cm)
	Depth: 1.70" (4.33cm)
Weight	15.59 oz. (442g) with battery pack
IP Rating	IP 65
Temperature	Operation: -5°C to 50°C
	Storage: -20°C to 60°C
Humidity	5% to 95% RH non-condensing
Shock	Multiple 4.0' (1.2m) drops to concrete

Docking Station

Interface	1 EIA RS232C IDC type connector via PC/computer, 1 USB port
Power Input	16 pin connector for charging and communication pads to main unit
	Quick charging typically takes 3 hours
	AC/DC adapter @ 12 VDC/2A with regulator

Pin Assignment of Charge and Communication Port

Pin	Assignment	Description
1	DCD	
2	RXD	Receive Data
3	TXD	Send Data
4	DTR	Data Transmit Ready
5	SG	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator
10	USB 5V	USB 5V
11	12V	12V Input
12	NC	
13	NC	
14	GDN	Ground
15	UDC	USB Differential Data Signal High Side
16	/UDC	USB Differential Data Signal Low Side

Appendix B

Update and Upgrade OS

Update OS via Compact Flash (ATA card)

In order to upgrade or re-install the PA962 OS via Compact Flash, you will require the NK.bin file (available from Unitech Technical Support):

Note: File name must be "NK.bin" – do not rename it.
CAUTION: Users files will be erased!

Insert CompactFlash chip into PC Card Adapter

1. Copy file "NK.bin" from the PC to the <u>root directory</u> of the Compact Flash card.

2. Insert the Compact Flash Card into the PA962.

3. Plug the power adapter into the PA962.

4. Run \Windows\BootMode.exe from PA962 by tapping My Computer -> Windows -> double tapping "BootMode" .

5. Press OK.

6. The PA960 will display the following screen:

PA960 BootLoader Ver 1.11
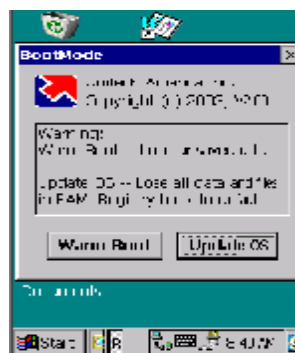–––––––––––––––––––––––––––––––––-
PA960 Boot Loader Option
(1)   Ethernet Image Update
(2)   OS Image Update
(3)   Boot Loader Update
(4)   Serial Port Image Update
(5)   Jump to WinCE
(6)   Flash Erase
––––––––––––––––––––––––––––––––
Choise:

7. Press the '2' key to select "OS Image Update". FlashRom's content will be erased and the new OS will be written to FlashRom. Then you will see the system will automaticlly run the following steps.:

(1). Image goint to Flash
(2). Erasing Flash
(3). New programming Flash

After the OS is successfully updated, the PA962 will automatically cold-start with the new OS.

Appendix C

Troubleshooting Guide

Problem	Solution
Terminal does not power on.	Battery needs recharging or replacement.
	Insure that battery is installed correctly.
Terminal shuts itself down.	Adjust " Power Properties"
	Battery needs recharging.
Battery life is short	Adjust " Power Properties" - especially if peripherals are used.
	Adjust backlight of LCD or Keypad.
	Replace battery pack if old(battery can be recharged approximately 500 cylces.)
"Low Backup Battery" message	Charge terminal for 16 hours.
Screen is blank	Make sure terminal is powered on.
	Adjust screen brightness.
Terminal either dow not respond, or responds inaccurately to touch screen input.	Calibrate touch screen.
	Perform a warm boot **- WARNING - Unsaved data will be lost.**
	Perform a cold boot **- WARNING - Terminal will be reset to default settings and data will be lost.**
Bar code not read.	Make sure scanning application is loaded and operational.
	Run " Scanner Setting" program to modify barcode read setting.
	Bar code might be distorted and should be replaced.
	Battery needs recharging or replacement.
Terminal will not shut off.	If terminal is processing data, attach charging cable to insure the battery isn't depleted.
	If terminal is connected to AC power, disconnect.
	Perform a warm boot **- WARNING - Unsaved data will be lost.**
	Perform a cold boot **- WARNING - Terminal will be reset to default settings and data will be lost.**

FCC Statement

This is a FCC Part 15 Class B product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Canadian Compliance Statement

This Class B Digital apparatus meets all requirements of the Canadian Interferance-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.
The device is certified to the requirements of RSS-139-1 for 2.4 GHz spread spectrum devices.

European Conformity Statement

Declaration of Conformity with Regard to the R&TTE 1999/5/EC and EMC 89/336/EEC directives.

Laser Information

The Unitech PA960 series is certified in the U.S. to conform to the requirements of DHHS/CDRH 21CFR Subchapter J and to the requirements of IEC 825-1. Class II and Class 2 products are not considered to be hazardous. The PA960 series contains internally a Visible Laser Diode (VLD) whose emissions do not exceed the maximum limits as set forth in the above regulations. The scanner is designed so that there is no human access to harmful laser light during normal operation, user maintenance or during prescribed service operations.
CAUTION - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Use of optical instruments with the scanner will increase eye hazard. Optical instruments include binolulars, microscopes, and magnifying glasses. This does not include eye glasses worn by the user.

The laser safety warning label required by the DHHS/IEC for the PA960 series's optional laser scanner module is located on the memory compartment cover, on the back of the unit.